

I. Amendments to the Claims

This listing of claims replaces without prejudice all prior versions and listings of claims in the application:

Listing of Claims:

1. (currently amended) A multi-wavelength laser source (MWLS) system, comprising:

(a) first and second monochromatic lasers having first (f_1) and second (f_2) lasing frequencies respectively and producing signals having first and second optical intensities respectively;

(b) means for amplifying combined signals of said first and second lasers;

(c) means for multiplying using non-linear optical effects the amplified combined signals to expand the coverage of the wavelength channels so as to yield comb-like multi-channel WDM laser signals comprising a plurality of more than two channels separated from each other by a frequency equal to the difference between f_1 and f_2 .

2. (previously presented) The system as defined in claim 1, said means for multiplying comprising a plurality of serially interconnected optical fiber sections each section having respective predetermined propagation characteristics

for said amplified combined signals which differ from respective predetermined propagation characteristics of any neighbouring sections.

3. (original) The system as defined in claim 2, said predetermined propagation characteristics being propagation mode, dispersion and length.

4. (previously presented) The system as defined in claim 2, said plurality of serially interconnected fiber sections being five having lengths L_1 , L_2 , L_3 , L_4 and L_5 , respectively, L_1 being the first section, and L_5 being the last section.

Claim 5. (previously presented) The system as defined in claim 4, the third fiber section comprising a single mode fiber (SMF) section.

Claim 6. (previously presented) The system as defined in claim 5, the first, second, fourth, and fifth fiber sections comprising dispersion shifted fiber (DSF) sections.

Claim 7. (previously presented) The system as described in claim 6, in which $L_1 = 1.1$ km, $L_2 = 1.1$ km, $L_3 =$

20 m, $L_4 = 1$ km and $L_5 = 1$ km.

Claim 8. (previously presented) The system as defined in claim 7, said five fiber sections having associated dispersion values, D_1 to D_5 as follows: $D_1 = -0.399$; $D_2 = 0.402$; $D_3 = 16$; $D_4 = 0.402$ and $D_5 = -0.399$, all in units of ps/km/nm.

Claim 9. (original) The system as described in claim 8, wherein f_1 and f_2 correspond to wavelengths in the vicinity of 1550 nm.

Claim 10. (cancelled)

Claim 11. (previously presented) A system as defined in claim 2 comprising means for modulating said first and second monochromatic lasers when the first and second monochromatic lasers are lasing by a very low frequency signal whereby Stimulated Brillouin Scattering of the amplified combined signals is reduced.

Claim 12. (new) A multi-wavelength laser source (MWLS) system, comprising:

(a) first and second monochromatic lasers having first and second lasing frequencies respectively, and

producing outputs having first and second optical intensities respectively;

(b) a coupler and amplifier adapted to combine and amplify the outputs of the first and second monochromatic lasers to produce a amplified combined signal having a beat frequency equal to a difference between the first and second lasing frequencies;

(c) a plurality of serially interconnected optical fiber sections, each section having respective predetermined propagation characteristics, the propagation characteristics of the plurality of serially interconnected optical fiber sections being collectively selected to expand the coverage of the wavelength channels so as to yield comb-like multi-channel WDM laser signals comprising a plurality of more than two channels separated from each other by a frequency equal to the beat frequency.